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ABSTRACT

Traditionally, reading educators' alternatives for improving students' reading comprehension have been to (a) modify the text, (b) augment the text with aids, or (c) modify the students' reading behavior. The first involves limiting the average number of words per sentence and substituting short, easy words and structures. Results with this modification are not encouraging because comprehensibility relies on more complex factors, and text changes are costly and do not necessarily help students cope with real life reading tasks. The second technique can be effective by involving the student as a creative participant. The third technique shifts the emphasis from teacher directed to student directed activities such as paraphrasing or outlining, but does not enable the student to perceive the text's organizational structure. What is needed is a technique that would consider the background abilities and needs of the reader, the expectations of the teacher, resources, text characteristics, and the implications of current research on reading comprehension. Glossing, an experimental technique that uses marginal and intratext notations to direct the readers' attention while they read, may be one such technique, as it would not merely improve comprehension but would also improve the readers' ability to comprehend. (HTH)

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Toward Understanding Comprehension

First general session presentation at the first annual meeting of the AMERICAN READING FORUM

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Reading educators' traditional alternative for improving students' reading comprehension have been to (a) modify the text, (b) augment the text, or (c) modify the students' reading behavior. Each alternative has been the subject of considerable study and each one can be briefly characterized.

Most efforts to improve comprehension by modifying the text have been heavily influenced by the literature on readability. Consequently these efforts have relied on such practices as limiting the average number of words per sentence, substituting easy (i.e., short, frequently occurring) words for hard (i.e., long, technical) words, and modifying sentence structures, usually be making them more like age-peers' oral sentences or by shortening or otherwise simplifying base clauses. The results have not been particularly encouraging, probably because readability--and comprehensibility--depend on a much more complex array of factors than sentence length, word frequency and sentence structure.

Effective nor not, making basic changes in the text can be both costly and unrealistic. Rewriting text is costly in terms of the time required. But even putting that consideration aside, one wonders whether rewriting text accomplishes much in helping students cope with real-life reading tasks. Perhaps a better way is to augment the text through the use of adjunct aids like advance organizers, objectives and questions. Adjunct aids can be characterized as orienting directions which dispose the reader to respond actively to certain aspects of the text. In general, the most commonly used adjunct aids--advance organizers, objectives and questions--can be quite effective in helping readers improve their comprehension scores.

To oversimplify, then, studies show more positive results for augmented than for modified text. Perhaps this is partly because the adjunct aids do indeed involve the reader as an active participant, whereas modified text does little to change the readers' role. At the same time, there is evidence that the improvement in comprehension scores is caused by items related to the focus of the adjunct aids, not increased global "understanding" of the text. Also on the negative side, the provision of adjunct aids is teacher-directed, so students may never internalize the orienting activities sufficiently to become self-directing. Providing adjunct aids can be like providing crutches without effecting cures.

Attempts to improve comprehension by modifying students' reading behaviors do shift the emphasis from teacher-directed to student-directed activities. The more frequently encouraged activities include imaging, paraphrasing, and traditional study skills like underlining, summarizing, note-taking and outlining. Studies have demonstrated positive effects for each of these activities; but, in general, the positive effects have been found with older (i.e., high school and college) students who have above-average ability. On the positive side, such activities do indeed involve students in their own learning and offer the potential of being internalized. On the negative--or perhaps more properly, the realistic--side, the activities typically provide very little by way of developing readers' ability to deal with the structure of text. Because many of the activities require the reader to perceive the organizational structure of the text in order to proceed effectively, poor readers--the ones who need help the most--are helped the least.

Reading educators' traditional alternatives share a common flaw: their focus is too limited. Emphasis is placed either on the text, on the teacher (i.e., teacher-directed activities), or on the reader (i.e., reader-imposed behaviors or strategies); and there is little inclination to pay attention to the interactions among all three. Yet the clear message of the literature, the expressed concerns of teachers, and our own observations and common sense is that attempts to improve readers' comprehension of text must have concurrent regard for the text, the teacher--for the entire instructional milieu--and the reader. To have optimal effect, then, an effective instructional technique ought to give concurrent consideration to

- the background, abilities and short- and long-term needs of the reader
- the expectations of the teacher
- the resources of the instructional milieu
- the characteristics (i.e., facts, concepts, structure, organization) of the text.

In other words, to have optimal effect the teaching technique would bring together the diverse aspects of a complex teaching-learning process. And, lest we forget, the technique would also embody the most promising implications of a vast and expanding body of related research.

> This may be the place to confess that the title of this paper--"Toward Understanding Comprehension"--does not describe its focus. What I've been talking about, and what I'll continue to talk about, is not the thrust of or the need for research on the nature of comprehension. (The research on comprehension may already say more about

comprehension than any person sincerely interested in reading education can understand.) What I really mean to be talking about is how we, as reading educators can discover ways to help learners not only to improve their comprehension of printed material but also, and more important, to improve their ability to comprehend. A more proper title, then, might be something like "Understanding Toward Comprehension."

My problem with the title may be related to a dilemma I see us facing in reading education. Should the main role of a reading educator be to conduct or to interpret research? And, if the latter, then what does adequate interpretation amount to? But more about that later.

There is indeed an extensive and rapidly expanding body of research that appears relevant to reading educators' efforts to enhance readers' ability to understand reading material. Just as an example I can point out three categories of studies that appear to promise much to reading education. All of the studies cited were conducted and reported by people who, I am confident, would not claim to be "reading educators" in the conventional sense. (In fact, I suspect that most, or all, of them might take offense at being called reading educators, noblesse oblige notwithstanding.) The categories can be characterized as follows:

- The Reader--where the focus is on the prior knowledge and knowledge structures of readers. Some investigators have been paying particular attention to readers' cogni-

tive development (for example, Smirnov, 1973; Brown, 1975, 1977, 1979; Chi, 1978; Naus & Halasz, 1979) and to readers' use of prior knowledge, or schemata (for example, Norman, Genter, & Stevens, 1977; Anderson, Reynolds, Schallert, & Goetz, 1977; Rummelhart & Ortony, 1977; Kintsch, 1979; Rummelhart, in press) in order to better understand the personal characteristics that are involved in effective comprehension.

- The Text--where the focus is on the attributes of printed material. A number of investigators have been working with the analysis of text (for example, Kintsch, 1974; Meyer, 1975, 1979) and the adaptation of text (for example, Frase, 1972, 1975; Rothkopf, 1976; Rickards & Hatcher, 1978) in order to better understand the characteristics of text and textual modification as parameters of comprehension.
- The Interaction of Reader with Text--where the focus is on the point of interaction between reader and printed material. Investigators have been examining readers' metacognitive development (for example, Brown, 1977, in press; Flavell, in press; Markman, in press; Baker, 1979), the development of study skills and learning strategies (for example, Anderson, 1978, in press; Brown, in press; Andre & Anderson, 1978), and the effects of schooling (for example, Olson, 1977a, 1977b; Cole, 1977; Meacham, 1977; Scribner, 1979) as they come

to grips with the inescapable fact that reading comprehension is a product of both reader and text.

Taken together, these and related studies offer a rich--but largely untapped, in any systematic, integrative sense--reservoir of facts, implications, and direction for developing instructional procedures designed to enhance learning from text. I should like to suggest that it is up to reading educators to provide the systematization and integration that precedes application in the classroom and in the real world. If reading educators don't do it, nobody will.

Now please don't misunderstand. I know the challenge is an old one. For at least a millenium we educators have been lamenting the gap between "research" and "application". But generally the lamenting has been about as sincere as the wailing of paid mourners. The realities of the tenture system and the folkways of the craft effectively force a choice of RESEARCH or PRACTICE. There is virtually no incentive and consequently, very little inclination to make an earnest commitment to translating research results into instructional practice. Those who choose not to make a clear choice are likely to develop a schizoid style: one set of behaviors in the company of researchers and another, essentially unrelated set of behaviors in the company of practitioners. But the stark fact is that it is very difficult to live with one foot in each camp and virtually impossible to exist in the no-man's land between them.

This is the time for another confession: I'm not sure I see a way out of the dilemma. In the manner of academicians, I find it easier to acknowledge problems then to come up with solutions. But in the manner of schizo-

> phrenics, I'm willing to share an experience. Just let it be clear that I'm sharing an experience; I'm not offering a solution--and I'm certainly not giving advice.

In our attempt to act as facilitators, my associates and I settled on the notion of developing an instructional technique that we hope will help to improve comprehension--not just what we know about comprehending. We described our purpose in an article for Reading Psychology (Otto, White & Camperell, 1980): ". . . on the basis of our observations in the field, our fantasies of how things could be, and our present perceptions of the related research, we have begun to develop procedures for glossing expository text. To oversimplify, we are using marginal and other intratext notations--gloss--to direct readers' attention while they read. Instead of relying on traditional adjunct aids like questions or advance organizers, we are attempting to direct readers' active attention to places in text where the application of specific skills would be appropriate (this could be for the purpose either of teaching or of encouraging the application of specific skills), to instances where a particular strategy could be useful for extracting meaning, and to key words and ideas. In other words, we are attempting to share mature readers' perceptions of and insights into the reading process with developing readers. We expect to make use of a wide range of techniques and activities, including traditional adjunct aids and study strategies. What we hope to do is to systematize our glossing procedures so they can be used with confidence, both formally, in the preparation of instructional materials, and informally, in face-to-face teaching in the classroom."

Recently, in the course of our work, we had occasion to prepare a

position statement. While it won't tell you much about the specifics of glossing, I hope it does tell you something about where we're coming from and where we're headed. This is it:

> As we view the present scene, there is, on the one hand, a clearly recognized need for techniques that teachers can use to help students understand content-area texts; and, on the other hand, an extensive and rapidly expanding body of research and theory that promises to yield facts, implications and directions for developing the needed instructional techniques. The work we are proposing--development of a glossing technique--places us squarely in the middle, for we expect to seek implications for application in the existing research and theory as we develop the technique. We think that the middle is a viable position for teacher educators, for it provides opportunities to build much needed bridges.
>
> We are, then, committed to the middle position, where we attempt to expedite the translation of research and theory to classroom application. This commitment is the basis for four decisions which, in turn, shape the planning of our work.
>
> First, our approach to developing the glossing technique is <u>eclectic</u>. (We would even go so far as to say it is, at least at this early stage, deliberately <u>atheoretical</u>). In other words we are not attempting to develop the glossing technique in line with a particular theoretical position--or to extend any particular line of research. To the contrary, this eclectic stance leads us to seek implications from an

array of relevant, or seemingly relevant, work. For the moment we are confining our search to promising areas of cognitive psychology--schema theory, memory development, text analysis, adjunct aids, metacognition, study strategies and text processing. We readily acknowledge the relevance and promise of other areas--sociolinguistics is a prime example. But even as we restrain ourselves from wild grabbing, we do not claim expertise, as teacher educators, in such an array of subareas of cognitive psychology. Hence, last month we hosted a conference on Reading Expository Text. The conference was one attempt to extend our personal perceptions in a systematic way by seeking the insights of qualified others. We expect to continue to seek the advice and criticism of specialized scholars.

Second, the glossing technique is deliberately "global" in nature. That is, the technique subsumes a variety of activities that address such diverse things as (a) development and/or application of specific skills and strategies, (b) the amplification or clarification of content, and (c) the internalization of skills and strategies. Of course "global gloss" is messy, both when it comes to specifying exactly what gloss is or how to gloss a text and when it comes to designing studies that show exactly which activities do or don't enhance which readers' ability to understand expository text. But if gloss is to embody the integrative feature we are seeking,it must necessarily address, simultaneously, (a) the techniques and strategies involved in the reading process, (b) characteristics of a given text, and (c) the facts and concepts

of a given content. Once we can reliably put together gloss that "works" (i.e., enhances understanding of text) with identifiable individuals or groups, then we can devise studies to find out why it works.

In other words, we think that for now it is important to synthesize, to take what common sense and informed analysis hold to be promising and intuitively devise a technique that is credible and useful to both teachers and students. Once we have that we will analyze to find out what works best and with whom.

Third, we expect to develop two sets of guidelines for glossing expository materials: guidelines for informal glossing, which teachers can use on a day-to-day basis with the textbooks in their content-area classrooms, and guidelines for formal glossing, which we can use to develop prototype materials for demonstration, instruction and study. We expect the two sets to be similar in intent and substance; but, at the same time, they will differ in detail and application.

Ultimately, teachers need guidelines that they can use informally to help students understand content-area texts. Consequently, we want to describe the glossing technique (or, probably more properly, techniques for glossing, for we expect that certain specific techniques will be more effective with certain individuals and groups) in terms that teachers can use informally to gloss content-area texts. Of course such guidelines will not, and should not, give the definitive direction of, say, a set of specifications for creating a computer program. They should, however, be a melding

of such things as (a) facts about the skill and strategy aspects of gloss that work best and with whom (e.g., that activities which focus on application of specific skills are most helpful to poor comprehenders; that activities which focus on inference-points in a text are most useful to readers who have a good background of related content knowledge), (b) practical procedures for analyzing and dealing with characteristics of text (e.g., organization; concept-load), (c) consideration for students' background knowledge related to a given text, and (d) sensitivity to the need for helping students move toward internalization of the skills and strategies that are demonstrated and developed through glossing. In other words, we look toward a set of guidelines for teachers that is rooted in facts and tempered by feelings that come from an awareness of situational constraints and considerations.

Concurrent with the development of guidelines for teachers, we expect to develop prototype gloss for demonstration and study. This means that we must develop more formal guidelines for glossing materials. Such guidelines should also be useful to publishers, both in preparing adjunct materials for content-area text and in preparing instructional materials designed to improve students' general skills and strategies for understanding expository texts. The goal we set for "formal gloss", insofar as its instructional applications are concerned, is to help readers move from a stage where they rely on gloss to assist their under-

> standing to a stage where the skills, strategies and insights they have acquired are internalized and self-sustaining. In other words, formal gloss should go beyond "providing crutches" --which is the case with most adjunct aids, and text modifications--to "effecting cures" (i.e., not merely improving comprehension, but improving readers' ability to comprehend).

That's what we said. We put ourselves in that vast and formidable no-man's land between research and practice. And, in effect, (you can judge whether in folly), we said that we would attempt to act as mediators, giving attention to some finite yet significant set of implications from the research side and to some clearly perceived and significant set of concerns on the practice side. A cynic might say that we put ourselves in an extremely vulnerable position, inviting potshots from both sides! On the other hand, one might say that we put ourselves in exactly the right position, as teacher educators, to perform a most vital and useful function.

To this point I've claimed to be behaving in the manner of academicians and of schizophrenics. You may judge the redundancy of those claims. But now let me disclaim acting in the manner of a first-general-session speaker, for I will offer neither conclusions nor summary. I choose to believe that we're here for the first of many meetings of the American Reading Forum because we want to engage in open-minded--and, at least some of the time, open-ended--discussion of issues related to reading education. I've tried to share with you some of the issues as I see them. I'm looking forward to the discussion.

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